

<110> Baker, Kevin Botstein, David Eaton, Dan Ferrara, Napoleone Filvaroff, Ellen Gerritsen, Mary Goddard, Audrey Godowski, Paul Grimaldi, Christopher Gurney, Austin Hillan, Kenneth Kljavin, Ivar Napier, Mary Roy, Margaret Tumas, Daniel Wood, William

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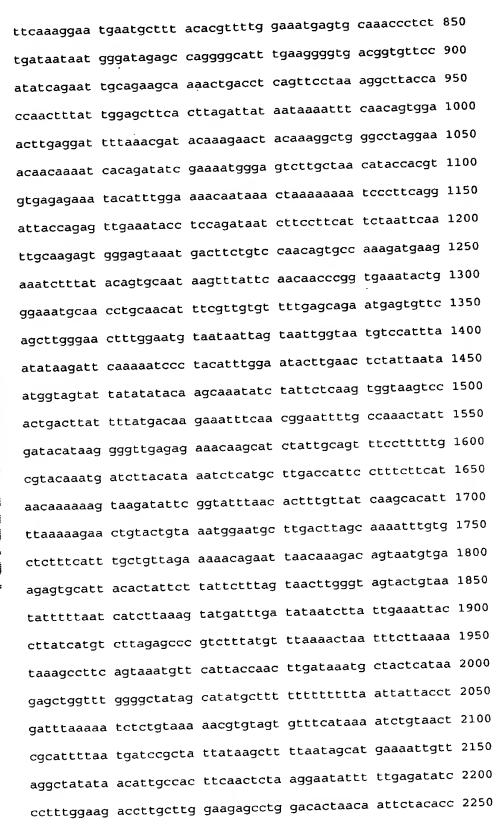
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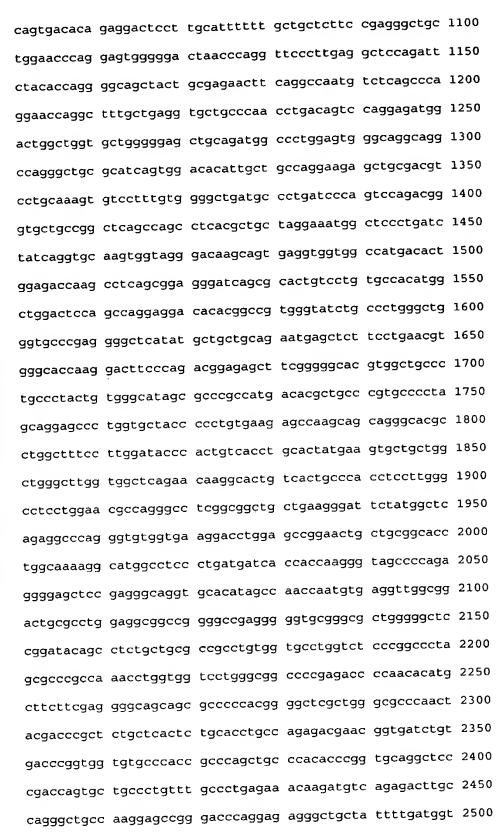
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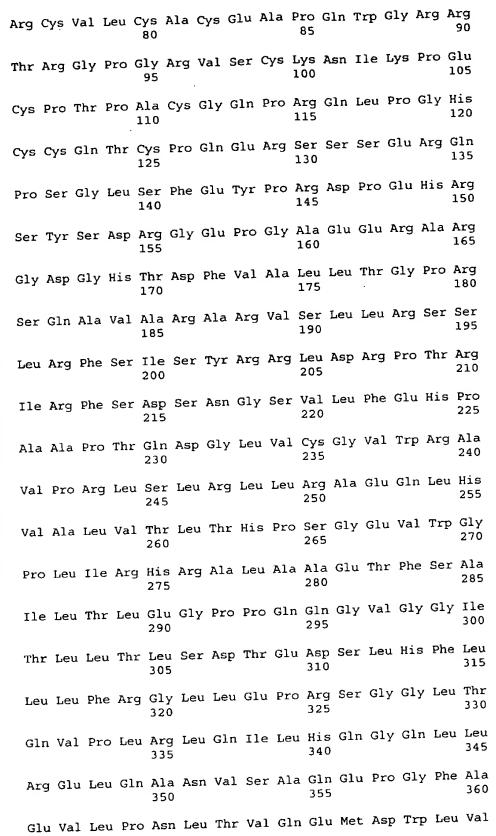
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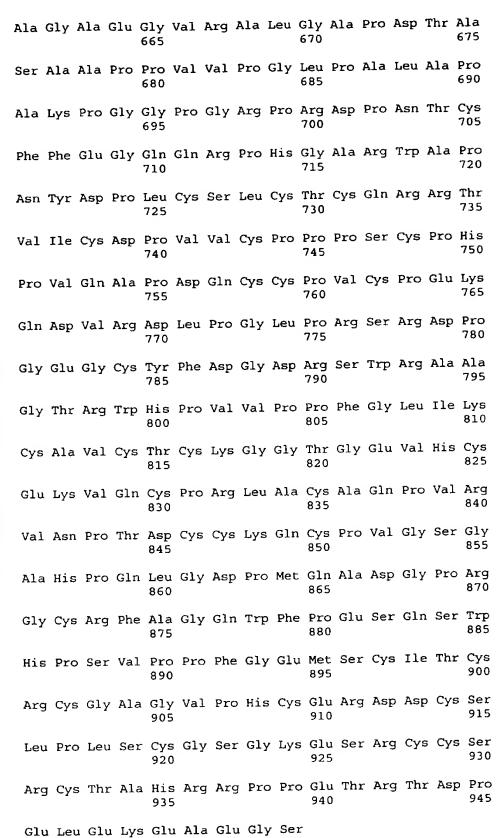
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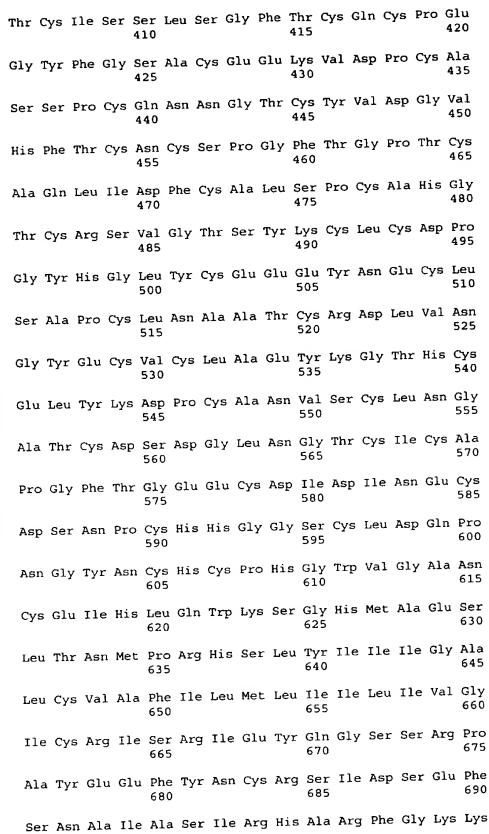
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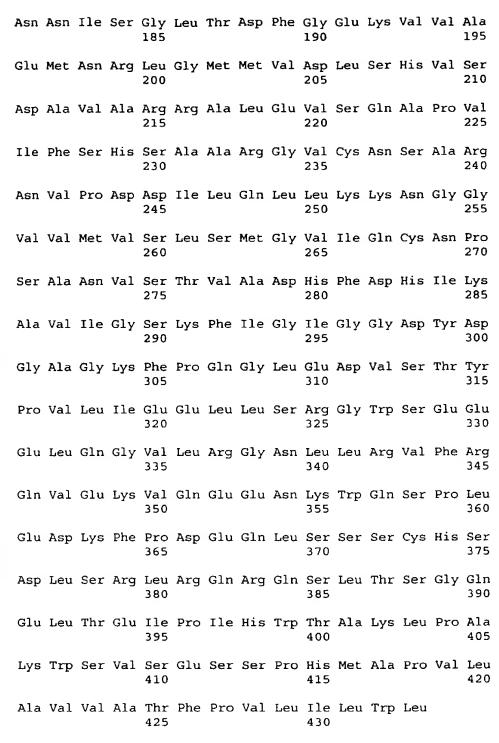
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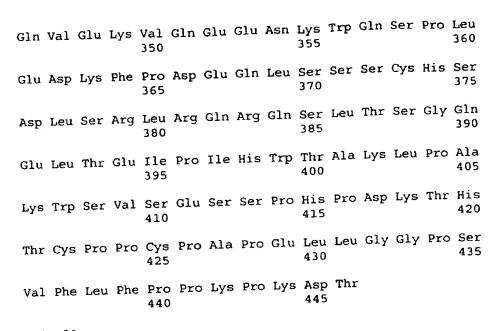
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Val Tyr Gln Lys Gly Leu Gln Asp Val Asn Leu Arg Asn Phe Ser

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Ser Val His Gly Asp Pro Pro Gly Ala Thr Ala Glu Gly Leu Tyr 65 70 75
Trp Thr Leu Asn Gly Arg Arg Leu Pro Pro Glu Leu Ser Arg Val
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Ser Arg Gln Arg Ser Gly Asp Asn Leu Val Cys His Ala Arg Asp 110 115 120
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Glu Lys Pro Val Asn Ile Ser Cys Trp Ser Lys Asn Met Lys Asp 140 145 150
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Ser Lys Leu Val Leu Trp Asp Ile Asn Lys His Gly Leu Glu Glu 75

Thr Ala Ala Lys Cys Lys Gly Leu Gly Ala Lys Val His Thr Phe
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Val Val Asp Cys Ser Asn Arg Glu Asp Ile Tyr Ser Ser Ala Lys 95 100 105

Lys Val Lys Ala Glu Ile Gly Asp Val Ser Ile Leu Val Asn Asn 110 115 120

Ala Gly Val Val Tyr Thr Ser Asp Leu Phe Ala Thr Gln Asp Pro 125 130 135

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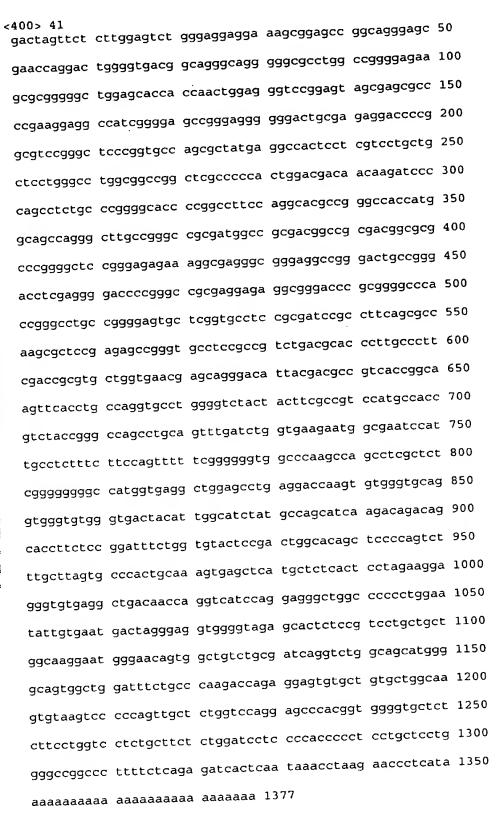
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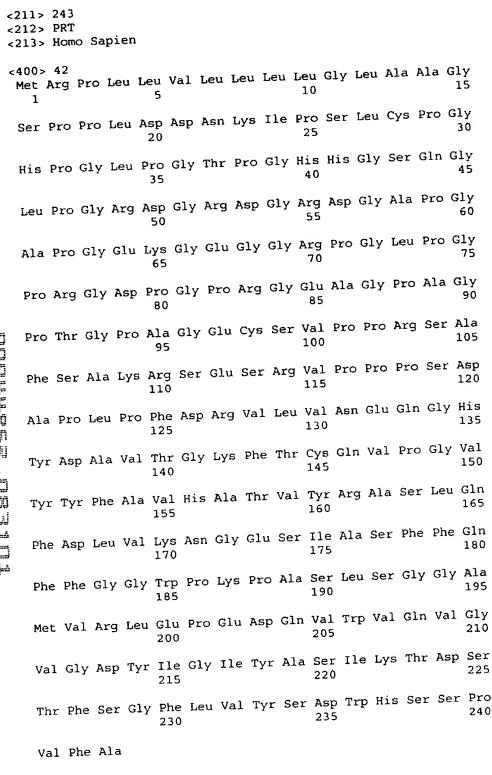
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Lys Glu Ser Phe Leu Leu Leu Ser Leu His Asn Arg Leu Arg Ser

Trp Val Gln Pro Pro Ala Ala Asp Met Arg Arg Leu Asp Trp Ser

Asp Ser Leu Ala Gln Leu Ala Gln Ala Arg Ala Ala Leu Cys Gly

Ile Pro Thr Pro Ser Leu Ala Ser Gly Leu Trp Arg Thr Leu Gln 95

Val Gly Trp Asn Met Gln Leu Leu Pro Ala Gly Leu Ala Ser Phe

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His Ala Ala Gly	Glu Cys 140	Ala Arg	Asn Ala Thr 145	Cys Thr	His Tyr 150
Thr Gln Leu Val	Trp Ala 155	Thr Ser	Ser Gln Lev 160	Gly Cys	Gly Arg 165
His Leu Cys Ser	Ala Gly 170	Gln Thr	Ala Ile Glu 175	ı Ala Phe	Val Cys 180
Ala Tyr Ser Pro	Gly Gly 185	Asn Trp	Glu Val Ası 190	n Gly Lys	Thr Ile 195
Ile Pro Tyr Lys	Lys Gly 200	Ala Trp	Cys Ser Let 205	u Cys Thr	Ala Ser 210
Val Ser Gly Cys	Phe Lys 215	Ala Trp	Asp His Al	a Gly Gly	Leu Cys 225
Glu Val Pro Arg	Asn Pro 230	Cys Arg	Met Ser Cy 235	s Gln Asn	His Gly 240
Arg Leu Asn Ile	e Ser Thr 245	Cys His	Cys His Cy 250	s Pro Pro	Gly Tyr 255
Thr Gly Arg Ty	r Cys Gln 260	ı Val Arg	Cys Ser Le 265	eu Gln Cys	Val His 270
Gly Arg Phe Ar	275		200		
Tyr Gly Gly Al	290		293		
Thr Cys Asp Le	305		310		
Glu Ala Asp Th	ar Tyr Ty 320	r Arg Ala	a Arg Met L 325	ys Cys Glr	Arg Lys 330
Gly Gly Val Le	335		340		
Leu Ala Phe Ty	yr Leu Gl 350	y Arg Le	u Glu Thr T 355	hr Asn Gl	u Val Thr 360
Asp Ser Asp Pl	365		370		
Lys Thr Ala L	ys Asp Se 380	er Phe Ar	g Trp Ala T 385	Chr Gly Gl	u His Gln 390
Ala Phe Thr S	er Phe Al 395	la Phe Gl	y Gln Pro A 400	Asp Asn Hi	s Gly Leu 405

Val Trp Leu Ser Ala Ala Met Gly Phe Gly Asn Cys Val Glu Leu 410 Gln Ala Ser Ala Ala Phe Asn Trp Asn Asp Gln Arg Cys Lys Thr 430 Arg Asn Arg Tyr Ile Cys Gln Phe Ala Gln Glu His Ile Ser Arg 445 440 Trp Gly Pro Gly Ser 455 <210> 51 <211> 24 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 51 aggaacttct ggatcgggct cacc 24 <210> 52 <211> 24 Ç <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <220> (Ti <400> 52 gggtctgggc caggtggaag agag 24 <210> 53 Ü <211> 45 <212> DNA U <213> Artificial Sequence þå <220> <223> Synthetic oligonucleotide probe gccaaggact cetteegetg ggccacaggg gagcaccagg cette 45 <210> 54 <211> 2331 <212> DNA <213> Homo Sapien cggacgcgtg ggctgggcgc tgcaaagcgt gtcccgccgg gtccccgagc 50 <400> 54 gtcccgcgcc ctcgccccgc catgctcctg ctgctggggc tgtgcctggg 100 gctgtccctg tgtgtggggt cgcaggaaga ggcgcagagc tggggccact 150 cttcggagca ggatggactc agggtcccga ggcaagtcag actgttgcag 200

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Lys Thr Lys Pro Leu Met Thr Glu Phe Ser Val Lys Ser Thr Ile

Ile Ser Arg Tyr Ala Phe Thr Thr Val Ser Cys Arg Met Leu Asn

Arg Ala Ser Glu Asp Gln Asp Ile Glu Phe Gln Met Gln Ile Pro

Ala Ala Ala Phe Ile Thr Asn Phe Thr Met Leu Ile Gly Asp Lys 100

Val Tyr Gln Gly Glu Ile Thr Glu Arg Glu Lys Lys Ser Gly Asp 115 110

Arg Val Lys Glu Lys Arg Asn Lys Thr Thr Glu Glu Asn Gly Glu 125 130 135
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Asp Lys Ala Ala Phe Phe Leu Ser Tyr Glu Glu Leu Leu Gln Arg 155 160 165
Arg Leu Gly Lys Tyr Glu His Ser Ile Ser Val Arg Pro Gln Gln 170 175 180
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Arg Gly Ser Gly Arg Gly Glu Asp Asp Ser Gly Pro Pro Pro Ser 215 220 225
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Pro Thr Val Val Gln Gln Ala Arg Ile Ala Gln Asn Gly Ile Leu 255 245
Gly Asp Phe Ile Ile Arg Tyr Asp Val Asn Arg Glu Gln Ser Ile 260 265 270
Gly Asp Ile Gln Val Leu Asn Gly Tyr Phe Val His Tyr Phe Ala 285 275 280 285
Pro Lys Asp Leu Pro Pro Leu Pro Lys Asn Val Val Phe Val Leu 290 295 300
Asp Ser Ser Ala Ser Met Val Gly Thr Lys Leu Arg Gln Thr Lys 305 310 315
Asp Ala Leu Phe Thr Ile Leu His Asp Leu Arg Pro Gln Asp Arg 320 325 330
Phe Ser Ile Ile Gly Phe Ser Asn Arg Ile Lys Val Trp Lys Asp 345
His Leu Ile Ser Val Thr Pro Asp Ser Ile Arg Asp Gly Lys Val 350 355 360
Tyr Ile His His Met Ser Pro Thr Gly Gly Thr Asp Ile Asn Gly 375
Ala Leu Gln Arg Ala Ile Arg Leu Leu Asn Lys Tyr Val Ala His 380 385 390
Ser Gly Ile Gly Asp Arg Ser Val Ser Leu Ile Val Phe Leu Thr 395 400 405
Asp Gly Lys Pro Thr Val Gly Glu Thr His Thr Leu Lys Ile Leu

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Ile Gly Ile Gly Asn Asp Val Asp Phe Arg Leu Leu Glu Lys 440 445	Leu 450
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Val Gln Ala Thr Lys Thr Leu Phe Pro Asn Tyr Phe Asn Gly 500 505	
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Val Thr Gly Ser Pro Arg Pro Gly Gly Asp Gly Glu Gly As 560 565	p Thr 570
Asn His Ile Glu Arg Leu Trp Ser Tyr Leu Thr Thr Lys Gl 575 580	
Leu Ser Ser Trp Leu Gln Ser Asp Asp Glu Pro Glu Lys G 590 595	
Leu Arg Gln Arg Ala Gln Ala Leu Ala Val Ser Tyr Arg Pl 605 610	
Thr Pro Phe Thr Ser Met Lys Leu Arg Gly Pro Val Pro A 620 625	
Asp Gly Leu Glu Glu Ala His Gly Met Ser Ala Ala Met G 635 640	
Glu Pro Val Val Gln Ser Val Arg Gly Ala Gly Thr Gln F 650 655	
Pro Leu Leu Lys Lys Pro Asn Ser Val Lys Lys Gln <i>F</i> 665 670	
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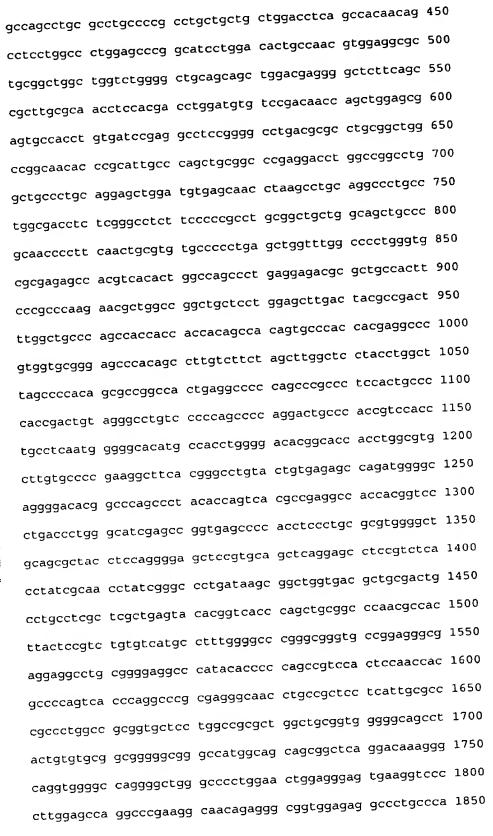
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Val Pro Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Val Phe

Glu Asn Gly Ile Thr Met Leu Asp Ala Ser Ser Phe Ala Gly Leu

Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser

Leu Arg Leu Pro Arg Leu Leu Leu Asp Leu Ser His Asn Ser 105 95

Leu Leu Ala Leu Glu Pro Gly Ile Leu Asp Thr Ala Asn Val Glu

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Leu Phe Ser Arg Leu A	rg Asn Leu His	Asp Leu Asp Val Ser 145	Asp 150
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Leu Thr Arg Leu Arg L	eu Ala Gly Asn	Thr Arg Ile Ala Glr 175	180
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Leu Phe Pro Arg Leu A			
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Ser His Val Thr Leu . 245	Ala Ser Pro Gl	u Glu Thr Arg Cys Hi 250	s Phe 255
Pro Pro Lys Asn Ala 260	Gly Arg Leu Le	u Leu Glu Leu Asp Ty 265	r Ala 270
Asp Phe Gly Cys Pro 275		200	
Thr Arg Pro Val Val		233	
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Leu Arg Leu Pro Ala Ser Leu Ala Glu Tyr Thr Val Thr Gln Leu 440 445 450
Arg Pro Asn Ala Thr Tyr Ser Val Cys Val Met Pro Leu Gly Pro 455 460 465
Gly Arg Val Pro Glu Gly Glu Glu Ala Cys Gly Glu Ala His Thr 470 475 480
Pro Pro Ala Val His Ser Asn His Ala Pro Val Thr Gln Ala Arg 495
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Arg Gly Arg Ala Met Ala Ala Ala Ala Gln Asp Lys Gly Gln Val 530 535
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Glu Val Ser Arg Leu Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly

Glu Gly Tyr Pro Trp Gln Ser Leu Pro Glu Gln Ser Ser Asp Ala

Leu Glu Ala Trp Glu Asn Gly Glu Arg Ser Arg Lys Arg Arg Ala

Val Leu Thr Gln Lys Gln Lys Gln His Ser Val Leu His Leu

Val Pro Ile Asn Ala Thr Ser Lys Asp Asp Ser Asp Val Thr Glu 125 130	i ;
Val Met Trp Gln Pro Ala Leu Arg Arg Gly Arg Gly Leu Gln Ala 140 145	
Gln Gly Tyr Gly Val Arg Ile Gln Asp Ala Gly Val Tyr Leu Le 155 160 16	
Tyr Ser Gln Val Leu Phe Gln Asp Val Thr Phe Thr Met Gly Gl 170 175	
Val Val Ser Arg Glu Gly Gln Gly Arg Gln Glu Thr Leu Phe Ar 185	
Cys Ile Arg Ser Met Pro Ser His Pro Asp Arg Ala Tyr Asn Se 205	
Cys Tyr Ser Ala Gly Val Phe His Leu His Gln Gly Asp Ile Le 215 220 23	
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Pro Pro Asp His Ala Glu Arg Ala Glu Glu Gln His Glu Lys Tyr

Arg Pro Ser Gln Asp Gln Gly Leu Pro Ala Ser Arg Cys Leu Arg

Cys Cys Asp Pro Gly Thr Ser Met Tyr Pro Ala Thr Ala Val Pro

Gln Ile Asn Ile Thr Ile Leu Lys Gly Glu Lys Gly Asp Arg Gly

Asp Arg Gly Leu Gln Gly Lys Tyr Gly Lys Thr Gly Ser Ala Gly

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	Gly Arg Lys Lys Pro Met His Ser Asn His Tyr Tyr Gln Thr Val							
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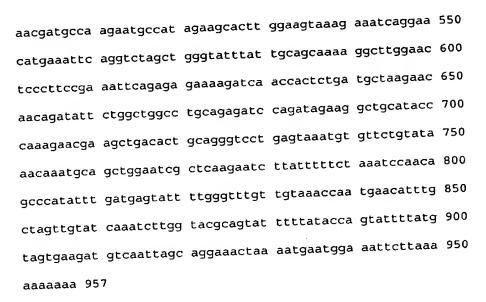
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Thr Pro Leu Ala His His His Thr Asp Tyr Ser Lys Pro Thr Asp 160 165
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Gln Tyr Gly Leu	Pro Phe 380	Glu	Lys	Trp	Leu 385	Leu	Ile	Gly	Ser	Leu 390
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Arg Ile Leu Ser	Glu Ser 410	Leu	Arg	Arg	Lys 415	Arg	Tyr	Ser	Arg	Leu 420
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Ser Ile Gly Glu Arg Pro Val Leu Lys Ala Pro Val Pro Lys Arg

Gln Lys Cys Asp His Trp Thr Pro Cys Pro Ser Asp Thr Tyr Ala

Tyr Arg Leu Leu Ser Gly Gly Gly Arg Ser Lys Tyr Ala Lys Ile

Cys Phe Glu Asp Asn Leu Leu Met Gly Glu Gln Leu Gly Asn Val

Ala Arg Gly Ile Asn Ile Ala Ile Val Asn Tyr Val Thr Gly Asn 115

Val Thr Ala Thr Arg Cys Phe Asp Met Tyr Glu Gly Asp Asn Ser 125

Gly Pro Met Thr Lys Phe Ile Gln Ser Ala Ala Pro Lys Ser Leu 145 140

Leu Phe Met Val Thr Tyr Asp Asp Gly Ser Thr Arg Leu Asn Asn

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